

IN THE CLAIMS:

1. (Currently amended) A storage system apparatus, comprising:
at least one of a plurality of disk drives a first storage system for storing data, and
a second storage system for storing a remote mirror copy of the data;
a memory, operable to contain path selection information;
a plurality of ports, providing switch-able connection from said first storage
system to said second storage system to a plurality of networks; and
a processor;
wherein said plurality of networks each has at least one of a plurality of user
provided policies associated therewith, and wherein said processor, based upon monitoring of at
least one of a plurality of conditions in said plurality of networks, selects at least one of said
plurality of ports to send data from the first storage system to the second storage system
connecting said plurality of networks, said selection based upon a comparison of said at least one
condition of a plurality of conditions in said plurality of networks against at least one to a
plurality of user provided policy policies.
2. (Currently amended) The storage system apparatus of claim 1, wherein
said at least one condition of a plurality of conditions comprises at least one of a throughput, a
busy rate, an error rate, and a presence of an error.
3. (Currently amended) The storage system apparatus of claim 1, further
comprising a plurality of status indications, said plurality of networks each having at least one of
said plurality of status indications associated therewith; and wherein said processor determines
based upon said status indications whether to select a port from said ~~at least one of a~~ plurality of
ports ~~connecting said plurality of networks.~~
4. (Currently amended) The storage system apparatus of claim 3, further
comprising a network monitor, said network monitor operable to detect a condition within at
least one of said plurality of networks, and thereupon set said ~~value in said~~ status indication.

5. (Original) The storage system apparatus of claim 3, wherein said status indication comprises at least one of available, temporarily unavailable, and unavailable.

6. (Original) The storage system apparatus of claim 1, wherein said policy comprises at least one of a threshold, a maximum, a minimum, an average, a mean, a limit, a constraint, a priority, and a target.

7. (Original) The storage system apparatus of claim 1, wherein said plurality of networks are grouped into a plurality of path groups, wherein said policies are associated with networks in a particular path group.

8. (Currently amended) The storage system apparatus of claim 7, wherein said first storage system and said second storage system ~~at least one of a plurality of disk drives~~ comprises ~~at least one of a plurality of~~ volumes.

9. (Currently amended) The storage system apparatus of claim 8, wherein each of said ~~at least one of a~~ plurality of volumes is permitted to access networks of at least one of said plurality of path groups.

10. (Currently amended) A method for minimizing cost of network access by a storage apparatus, said method comprising:

storing data in a primary storage volume;

specifying a first network to be used for transferring remote mirror copy data
from the primary storage volume to a secondary storage volume;

specifying a constraint for said first network;

specifying a second network to be used for transferring the remote mirror copy
data from the primary storage volume to the secondary storage volume; and

transferring said remote mirror copy data using said first network when conditions in said first network are in accordance with said constraint, otherwise transferring said remote mirror copy data using said second network.

11. (Currently amended) The method of claim 10, further comprising:
transferring a portion of said data using said first network even when conditions in said first network are not in accordance with said constraint as a test;
monitoring conditions in said first network during said test; and
returning to transferring said remote mirror copy data using said first network when said test reveals that conditions in said first network are again in accordance with said constraint.

12. (Original) The method of claim 10, wherein said first network is relatively less expensive to use than said second network.

13. (Original) The method of claim 10, wherein specifying said constraint for said first network comprises specifying at least one of a throughput, a busy rate, an error rate, and a presence of an error.

14. (Original) The method of claim 10, wherein said first network is a public network and said second network is a private network.

15. (Original) The method of claim 10, further comprising:
making said first network a higher priority network than said second network.

16. (Original) The method of claim 10, further comprising:
detecting an abnormal condition in said first network and thereupon transferring data using said second network.

17. (Original) A method for selecting a network, said method comprising:

providing primary storage for storing data;
providing secondary storage for storing a copy of the data, the secondary storage
being coupled to the primary storage via a plurality of networks;
monitoring at least one condition in the ~~of a plurality of conditions in a plurality~~
of networks;
comparing said at least one condition against ~~of a plurality of conditions in said~~
~~plurality of networks to~~ at least one ~~of a plurality of~~ user provided policy policies; and
selecting at least one of a plurality of ports connected ~~connecting~~ to said plurality
of networks in accordance with said comparison;
~~wherein said plurality of networks each has at least one of said plurality of user~~
~~provided policies associated therewith.~~

18. (Currently amended) The method of claim 17, wherein the selecting of at
least one of a plurality of ports ~~connecting to said plurality of networks~~ comprises:
determining based upon a status indication whether to select a port from said at
~~least one of a plurality of ports connecting said plurality of networks.~~

19. (Currently amended) The method of claim 17, further comprising:
associating said plurality of networks with a plurality of path groups;
wherein said policy ~~at least one of a plurality of policies~~ is associated with at least
one of a plurality of path groups.

20. (Currently amended) The method of claim 17, wherein the monitoring of
~~at least one of a condition~~ plurality of conditions in a plurality of networks comprises:
using a network monitor to detect a condition within at least one of said plurality of
networks, and thereupon set a value in a status indication.